

CALIFORNIA HIGH-SPEED TRAIN SYSTEM



- Provide a new mode of high-speed intercity travel to link major metropolitan areas
- Forecasted to carry as many as 100 million passengers annually by the year 2035
- 800-mile system with stations built to allow for express service
- Service linking the San Francisco Bay Area, Central Valley and Southern California
- 100% clean electric power
- Estimated travel time from San Francisco to Los Angeles: less than 2 hours 40 minutes

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WHY WE NEED HIGH-SPEED RAIL



JOBS

- 600,000 full-time, one-year, construction-related job-equivalents
- 5,000 permanent operations and maintenance jobs
- 450,000 economy-wide jobs by 2035

MOBILITY

- "Economic power is how fast you move people and goods around the state."
Gov. Arnold Schwarzenegger, January 15, 2008

ENVIRONMENT

- Reduced greenhouse gases
- AB 32: California's 2006 landmark legislation to reduce greenhouse gas emissions 25% by 2020
- Population Growth
- California's population now: 38 million
By 2035: 50 million



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WHY WE NEED HIGH-SPEED RAIL



We can build...

- New freeways, airport runways and more departure gates to address our expected population growth

or

We can achieve...

- An 800-mile high-speed train system, powered by 100% renewable electricity generated by clean wind and solar energy



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DESIGN OBJECTIVES AND EVALUATION CRITERIA

OBJECTIVE

- **Maximize ridership & revenue potential**
- **Maximize accessibility**
- **Minimize operating and capital costs**

CRITERIA

- **Minimize travel time**
- **Intermodal connections**
- **Minimize route length**

EVALUATION MEASURES

- **Minimize disruption to neighborhoods and communities**
- **Minimize impacts to environmental resources**
- **Minimize impacts to natural resources**
- **Land use**
- **Construction feasibility**

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PROJECT FUNDING

PROJECTED OVERALL STATEWIDE CONSTRUCTION COST: \$42.6 BILLION

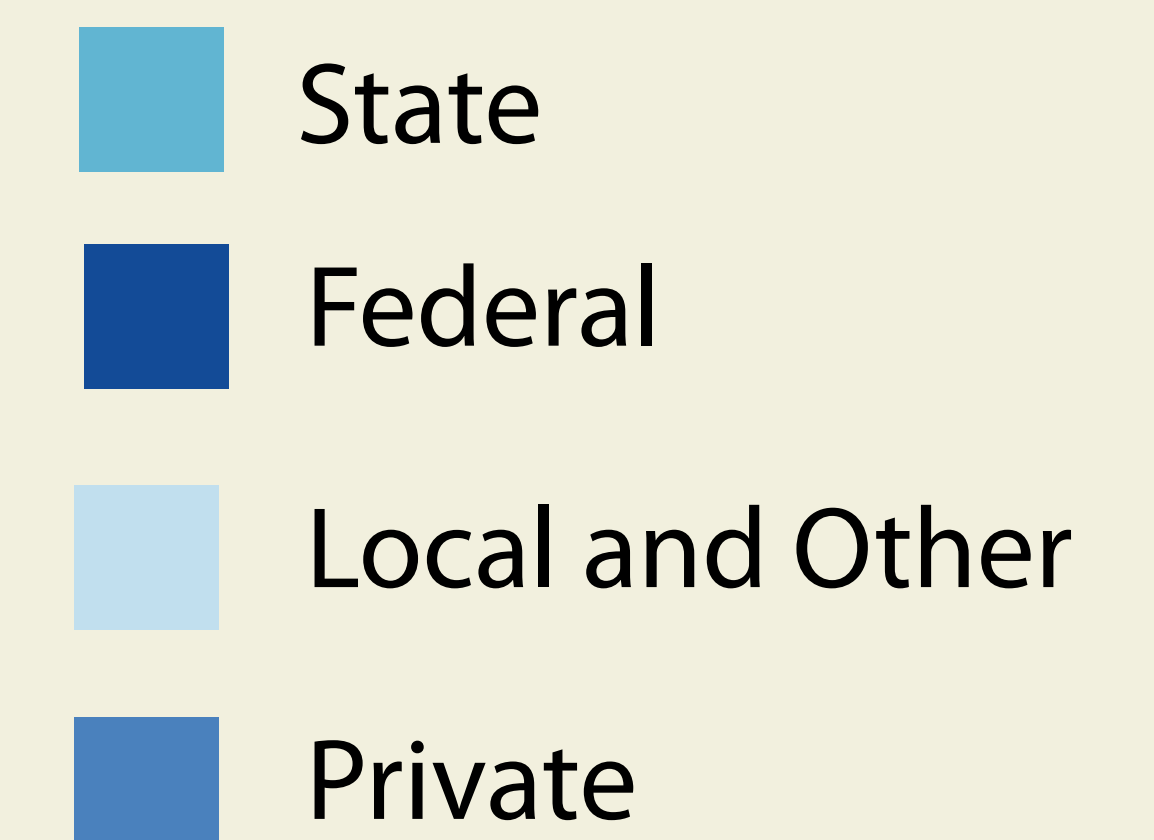
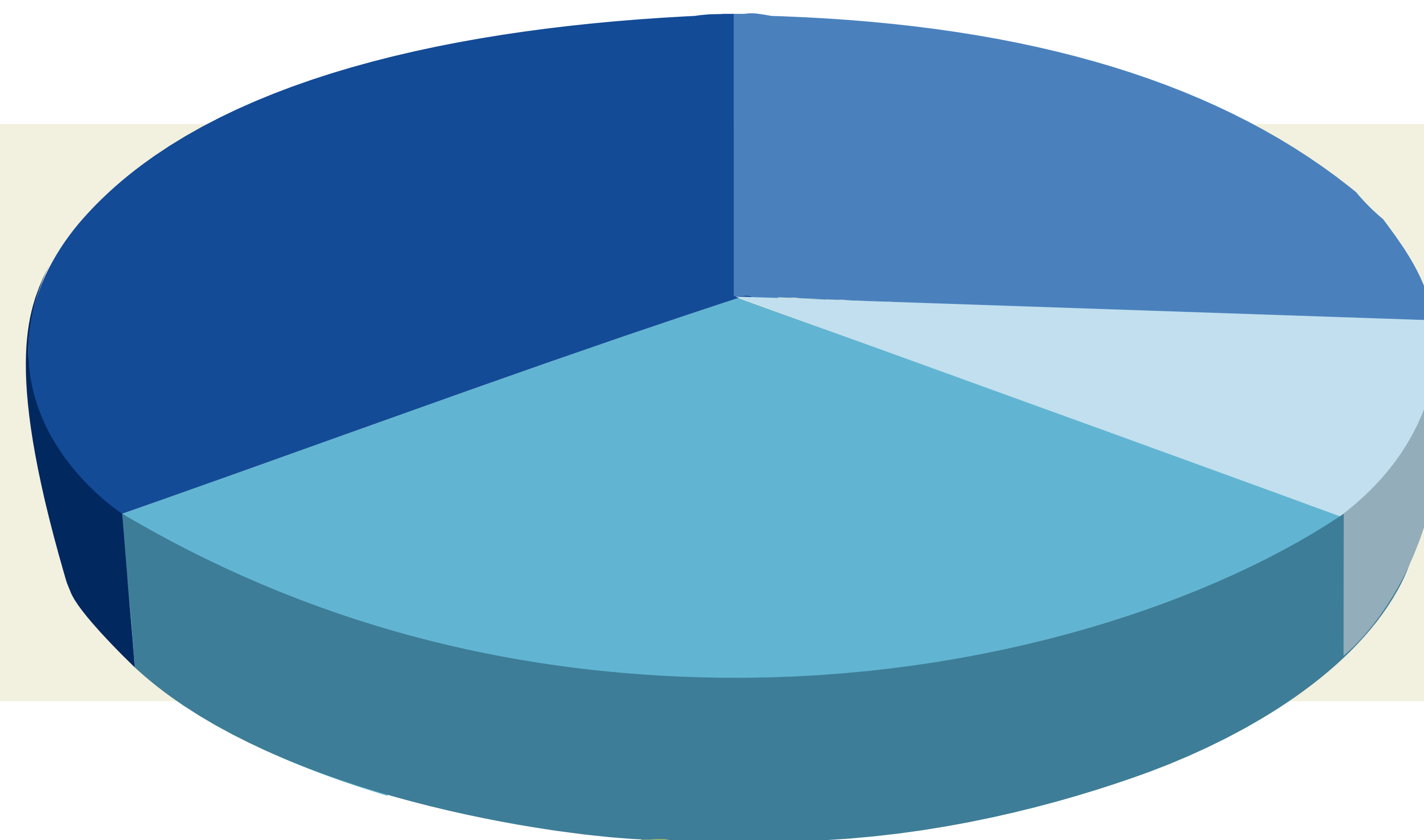
(Anticipated funding sources)

California Funding: \$9B

Federal Funding: \$17-19B

Local Funding: \$4-5B

Private Investment: \$10-12B



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INITIAL CONSTRUCTION: 2012

Starting in the Central Valley

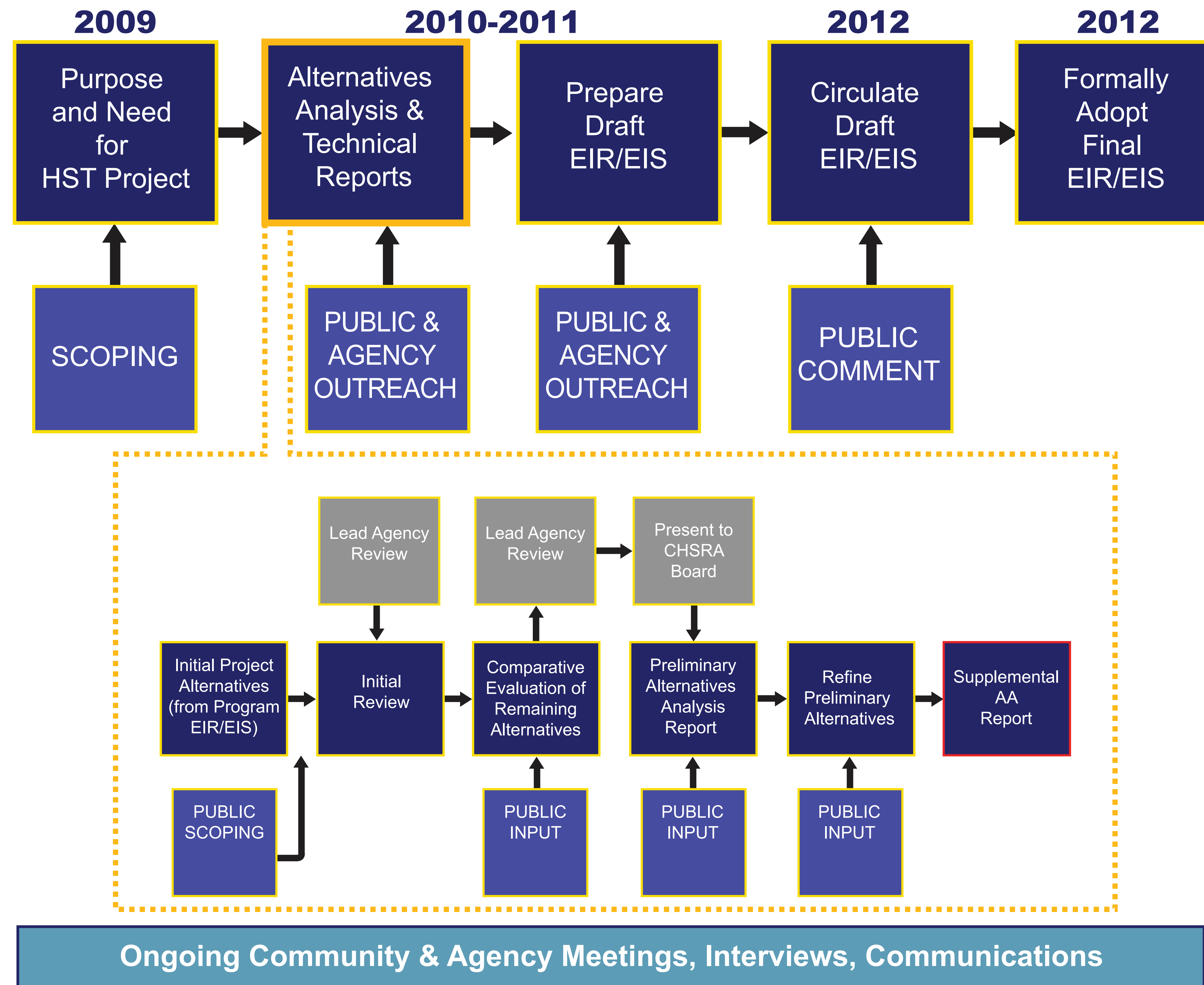
THE FOUNDATION FOR TRUE HIGH-SPEED RAIL

- Only segment where trains will travel at 220-mph maximum operating speed for long stretches
 - Allowing the 2 hr 40 min trip between Los Angeles and San Francisco
- Initial track in the Central Valley will serve as testing and proving ground for new high-speed train technology in the U.S.
- Technically simpler engineering than urban developed areas, majority at-grade in rural areas.



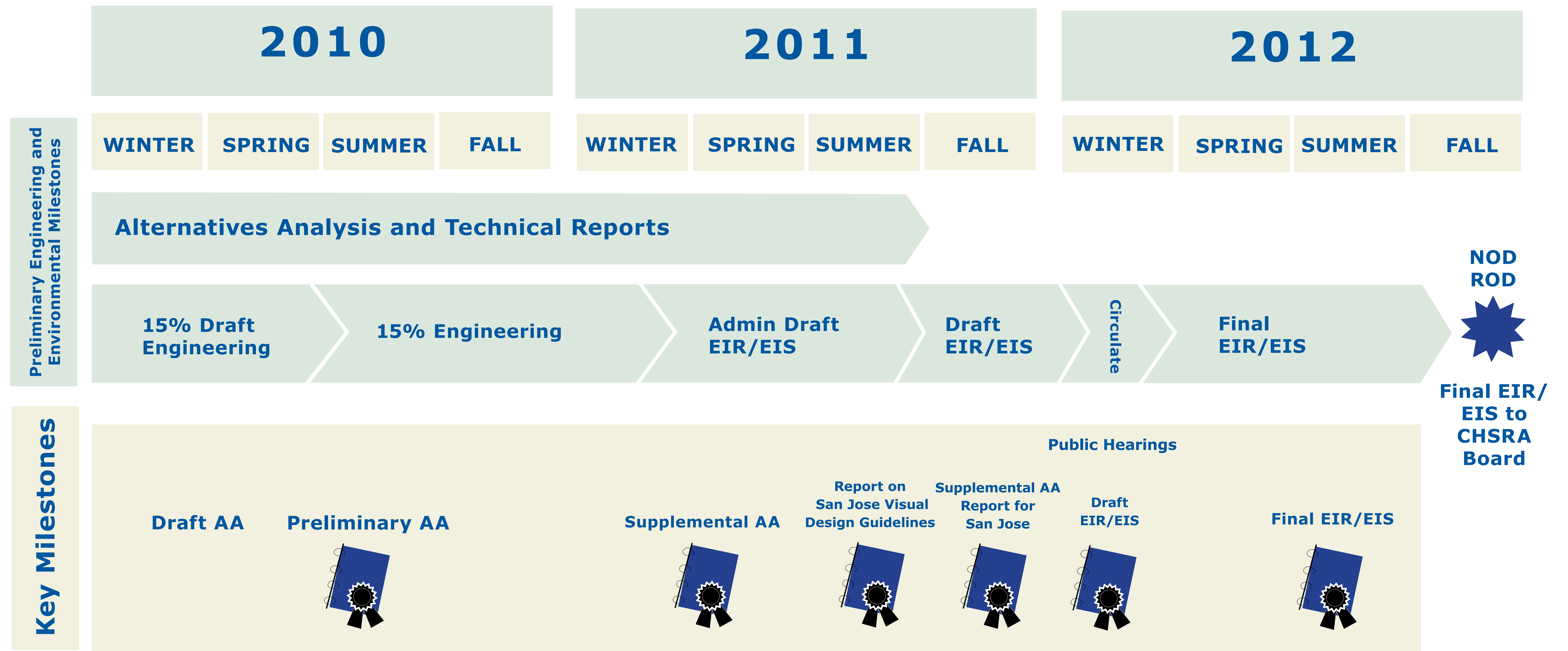
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PROJECT ENVIRONMENTAL REVIEW SCHEDULE AND ALTERNATIVES ANALYSIS PROCESS



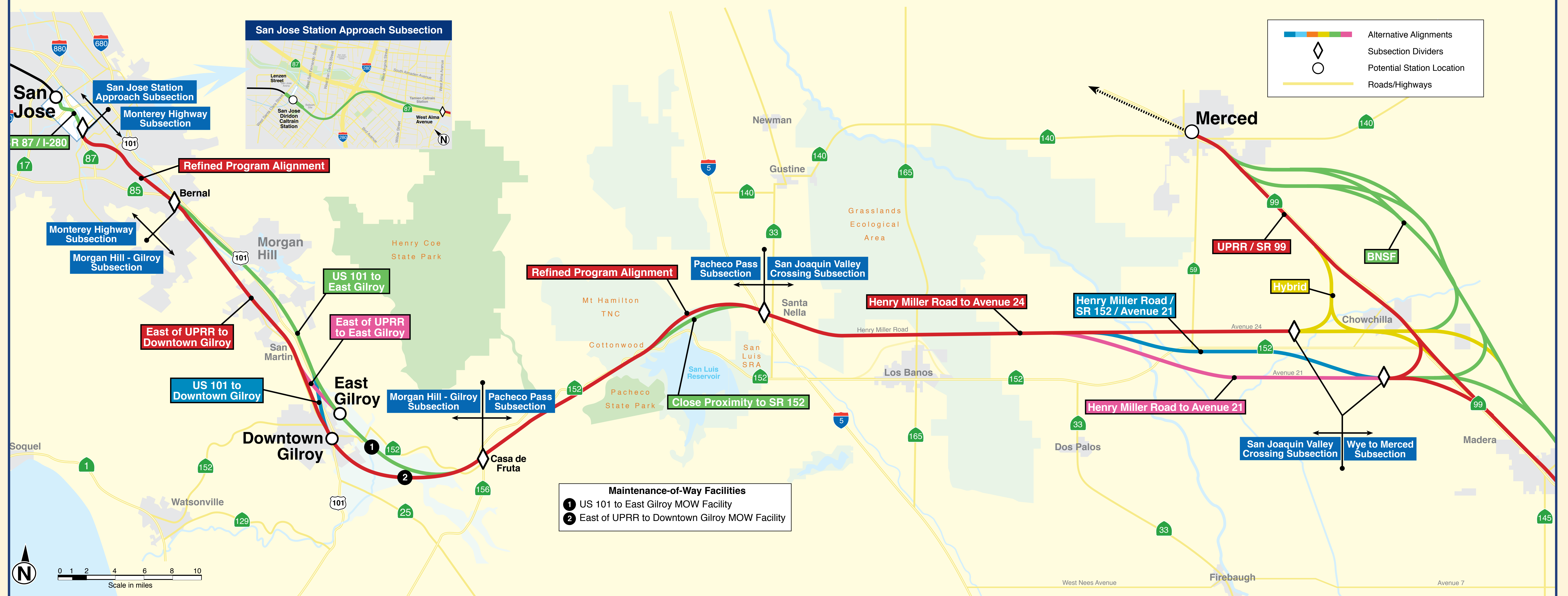
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NEXT STEPS



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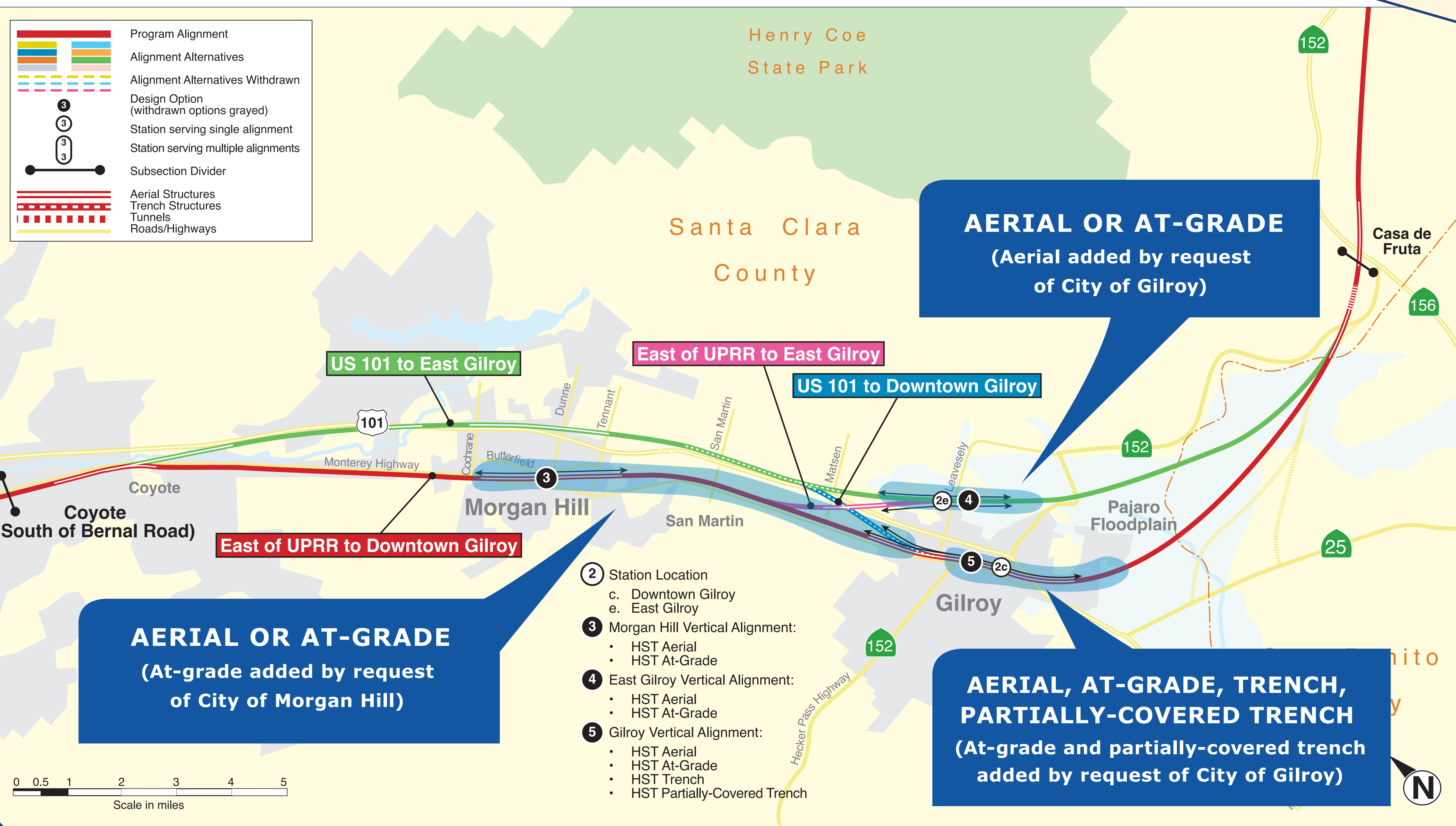
SAN JOSE TO MERCED SECTION ALIGNMENT ALTERNATIVES (AS OF MAY 2011)



**Alignments subject to change*

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MORGAN HILL – GILROY SUBSECTION



**Alignments subject to change*

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MORGAN HILL – GILROY SUBSECTION

ALTERNATIVES

Recommended alternatives to carry forward (additional alternatives shown in **bold**):

- East of UPRR to Downtown Gilroy Alignment Alternative
 - Design options in Morgan Hill: aerial, **at-grade**
 - Design options in Downtown Gilroy: aerial, open trench, **at-grade, partially covered trench**
- East of UPRR to East Gilroy Alignment Alternative
 - Design options in Morgan Hill: aerial, **at-grade**
 - Design options in East Gilroy Station area: at-grade, **aerial**
- US 101 to Downtown Gilroy Alignment Alternative
 - Design options in Downtown Gilroy: aerial, open trench, **at-grade, partially covered trench**
- US 101 to Gilroy Alignment Alternative
 - Design options in East Gilroy Station area: at-grade, **aerial in station area**

STATIONS

Recommended stations to carry forward (additional alternatives shown in **bold**):

- Gilroy Downtown Station
 - Design options: aerial, trench, **partially covered trench, at-grade**
- East Gilroy Station
 - Design options: at-grade, **aerial in station area**

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EXISTING AND PROPOSED FUTURE ROADWAYS EAST GILROY STATION AREA

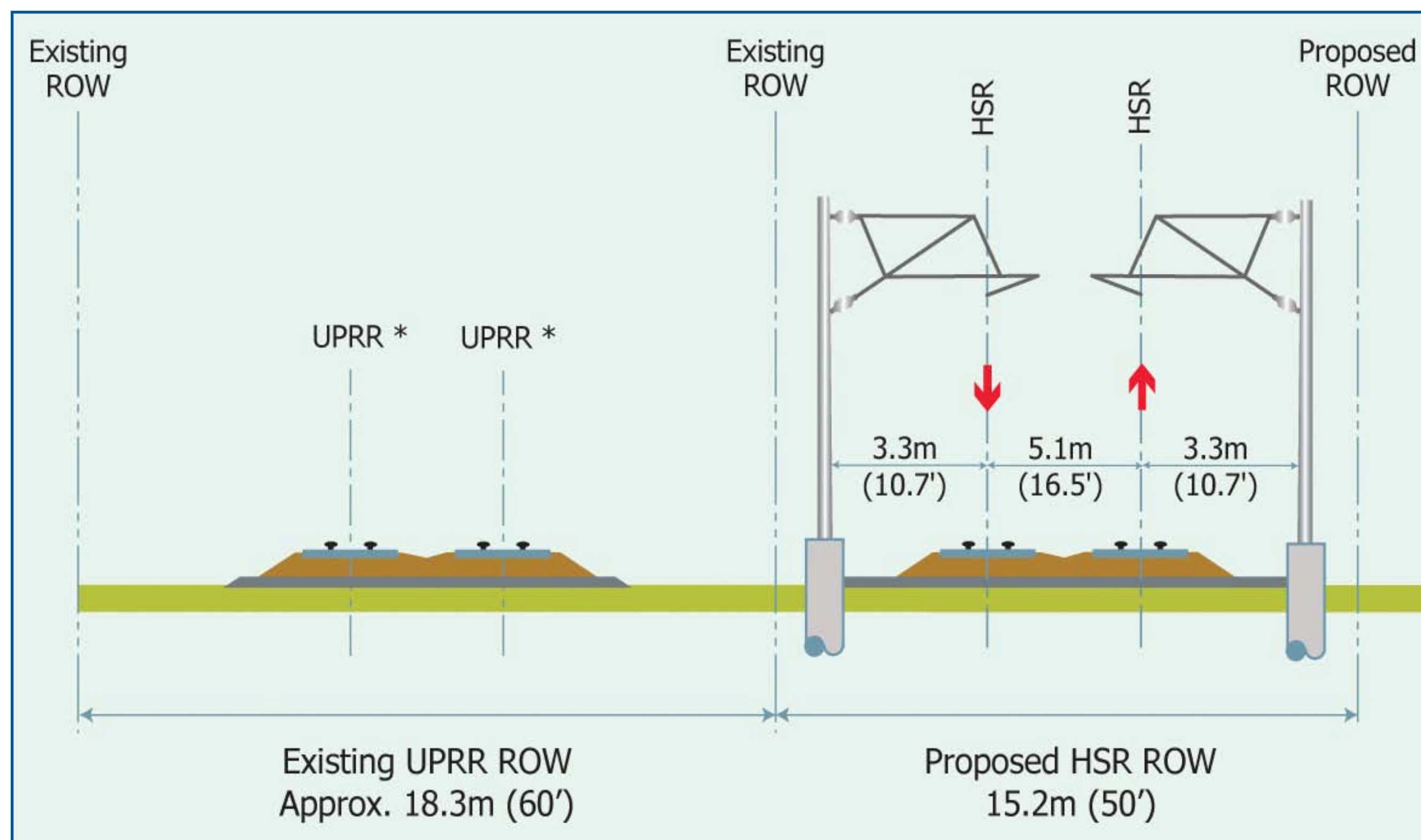


**Proposed, subject to change*

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TYPICAL SECTIONS ALONG ALIGNMENT

Shared Railroad Corridor

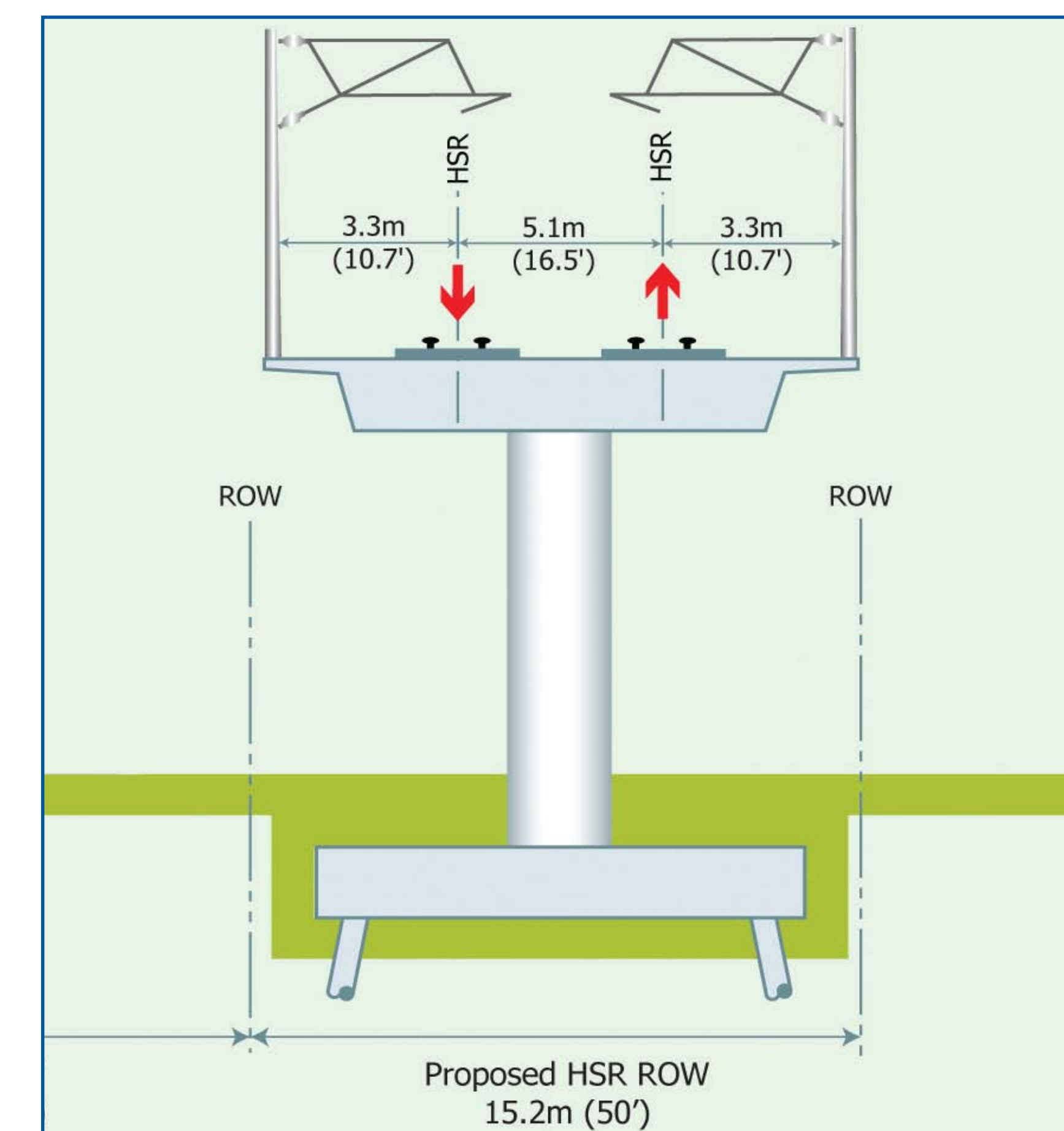


Portions of the alignment will need special structures to fit into the built environment

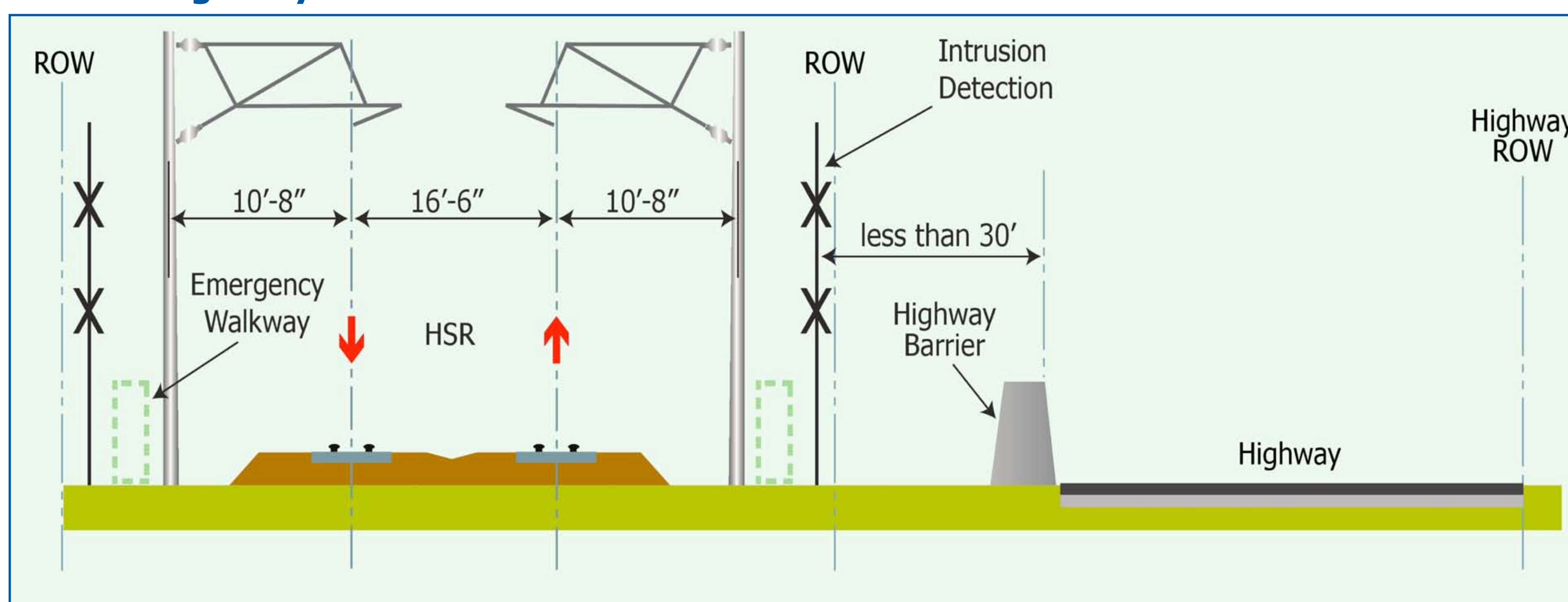
Structures could include:

- Aerial structures
- At-grade
- Trenches

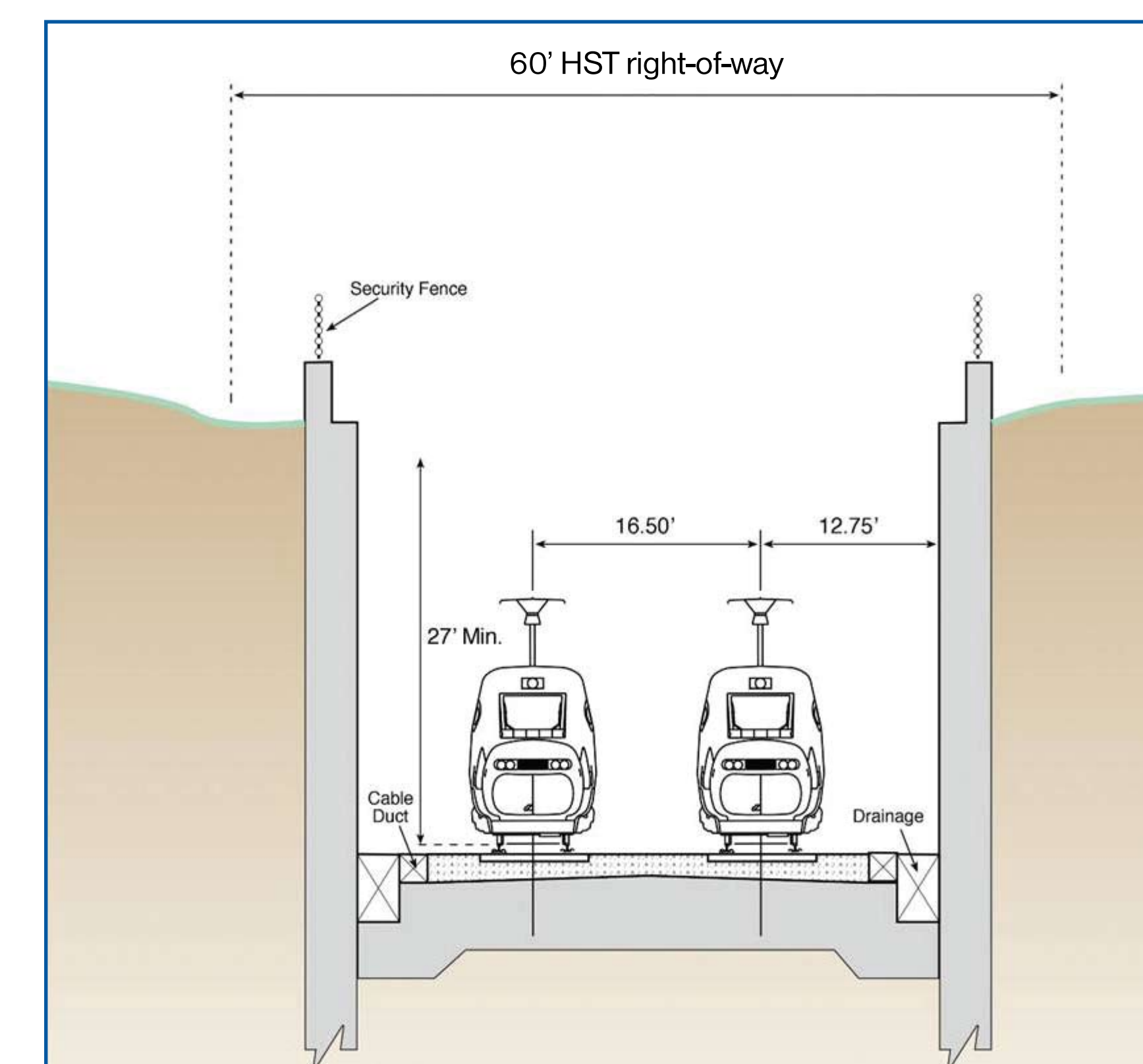
Aerial Structure



Shared Highway Corridor

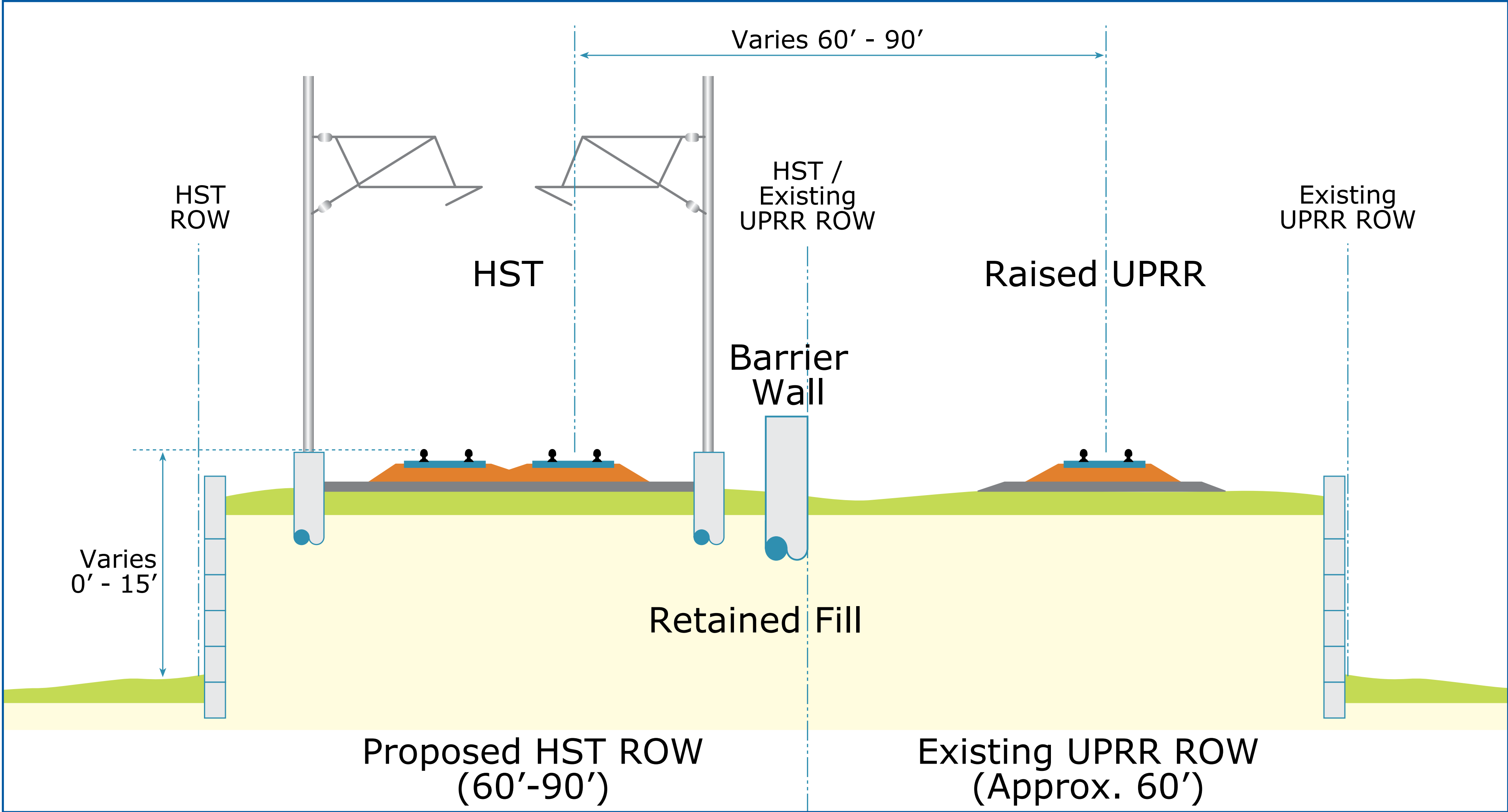


Trench Section

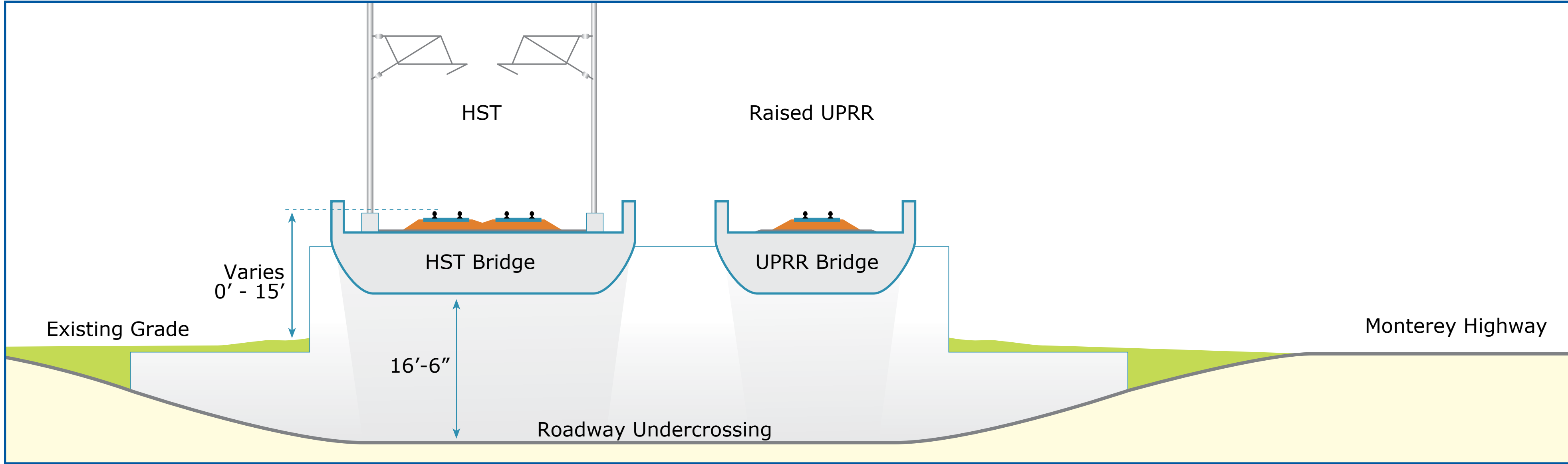


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TYPICAL SECTIONS ALONG ALIGNMENT



AT-GRADE (ON RETAINED FILL)



ROADWAY UNDERCROSSING

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GRADE SEPARATIONS



Before

Typical Underpass

After



- **Grade separations are underpasses and overpasses where roadways cross railroad tracks**
- **Grade separations reduce congestion and noise and improve safety**
- **California High-Speed Train tracks will be grade-separated from adjacent roadways**

Typical Overpass



Grade Separated from Roadway



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PACHECO PASS SUBSECTION

RECOMMENDED ALTERNATIVES TO CARRY FORWARD (ADDITIONAL ALTERNATIVE SHOWN IN **BOLD**):



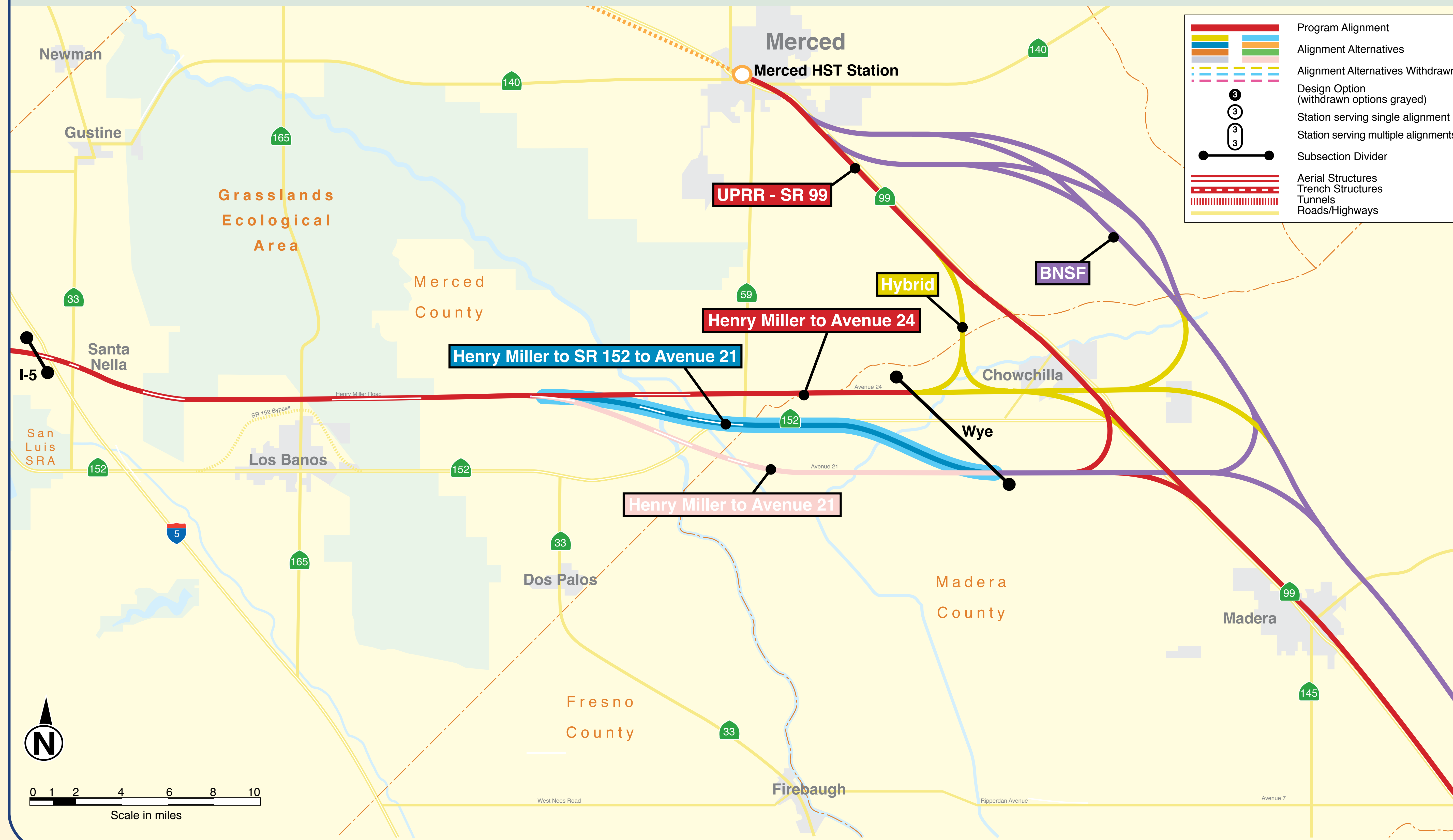
- Close Proximity to SR 152 Alignment Alternative
- Refined Program Alignment Alternative
- **Both alignments were refined for potential landslide areas in the western portion of the Pacheco Pass**

**Alignments subject to change*

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SAN JOAQUIN VALLEY CROSSING SUBSECTION

RECOMMENDED ALTERNATIVES TO CARRY FORWARD (ADDITIONAL ALTERNATIVE SHOWN IN **BOLD**):



- Henry Miller Road to Avenue 24 Alignment Alternative
- Henry Miller Road to Avenue 21 Alignment Alternative
- **Henry Miller Road/SR 152/Avenue 21 Alignment Alternative** (other alternatives along SR 152 will be considered)

**Alignments subject to change*

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SAN JOSE-MERCED SIMULATIONS



Downtown Gilroy (6th St.)

Casa de Fruta



Monterey Rd.

Los Banos Wildlife Area at Henry Miller Rd.



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MITIGATION MEASURES UNDER ELEVATED GUIDEWAY



Agricultural Use Under Guideway



- FRA has approved joint use under HST Guideway
- Linear parks, paths and roadways may be considered

Joint Use in Italy



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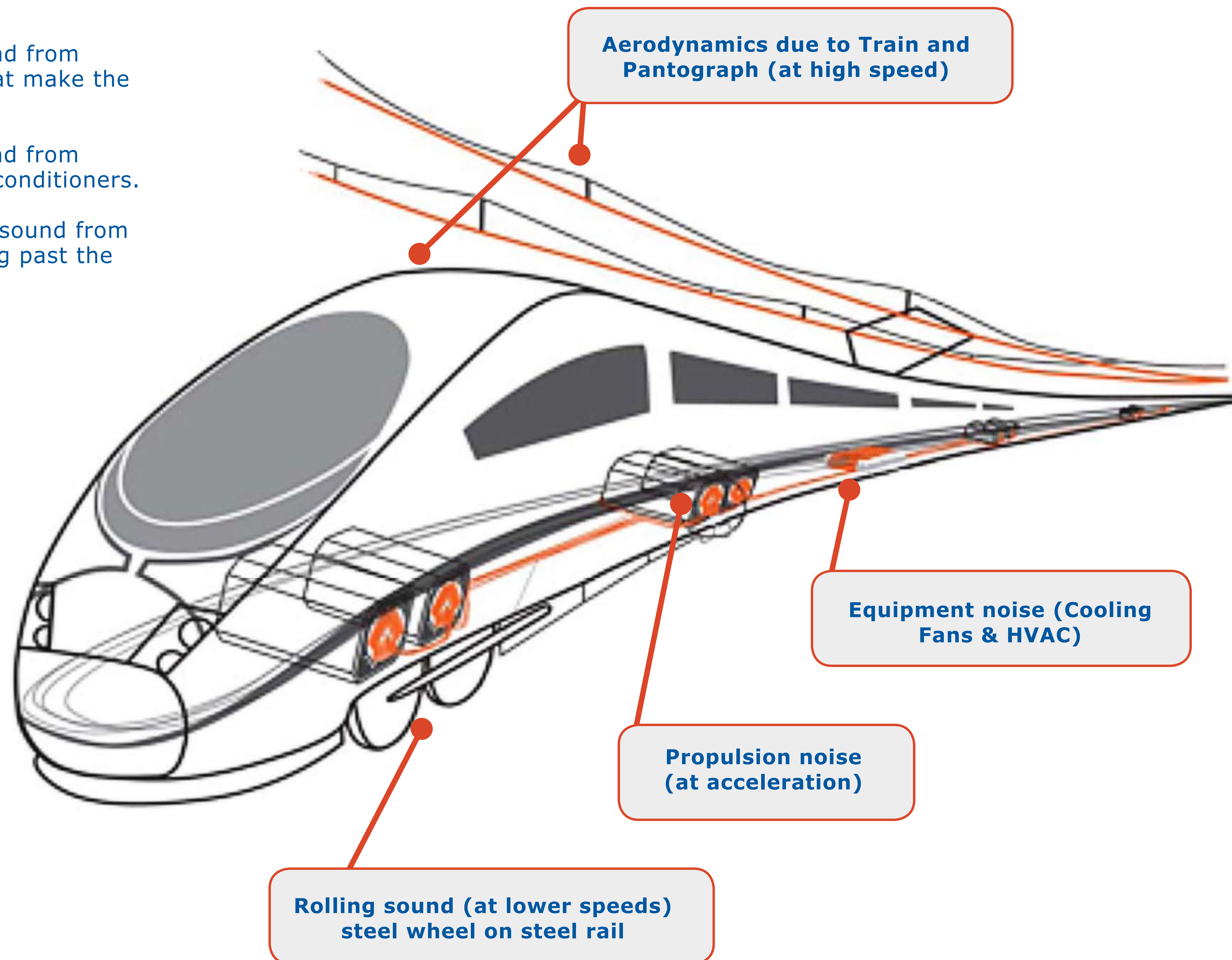
SOUND

Rolling – sound from the wheels as trains move along the tracks.

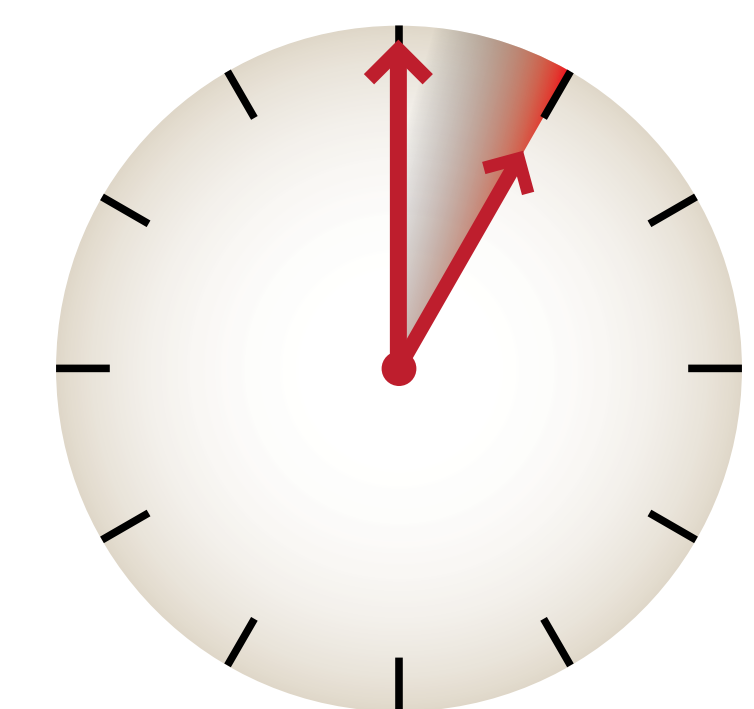
Propulsion – sound from motors and gears that make the train move.

Equipment – sound from cooling fans and air conditioners.

Aerodynamics – sound from the flow of air moving past the train at high speed.



The review will look at two key measurements:



One-Hour Equivalent Sound Level, which measures the moment-to-moment fluctuations in sound over a single hour – taking into account both the number of trains and the time they take to pass by – the best measure for assessing the impacts on offices, schools and libraries.



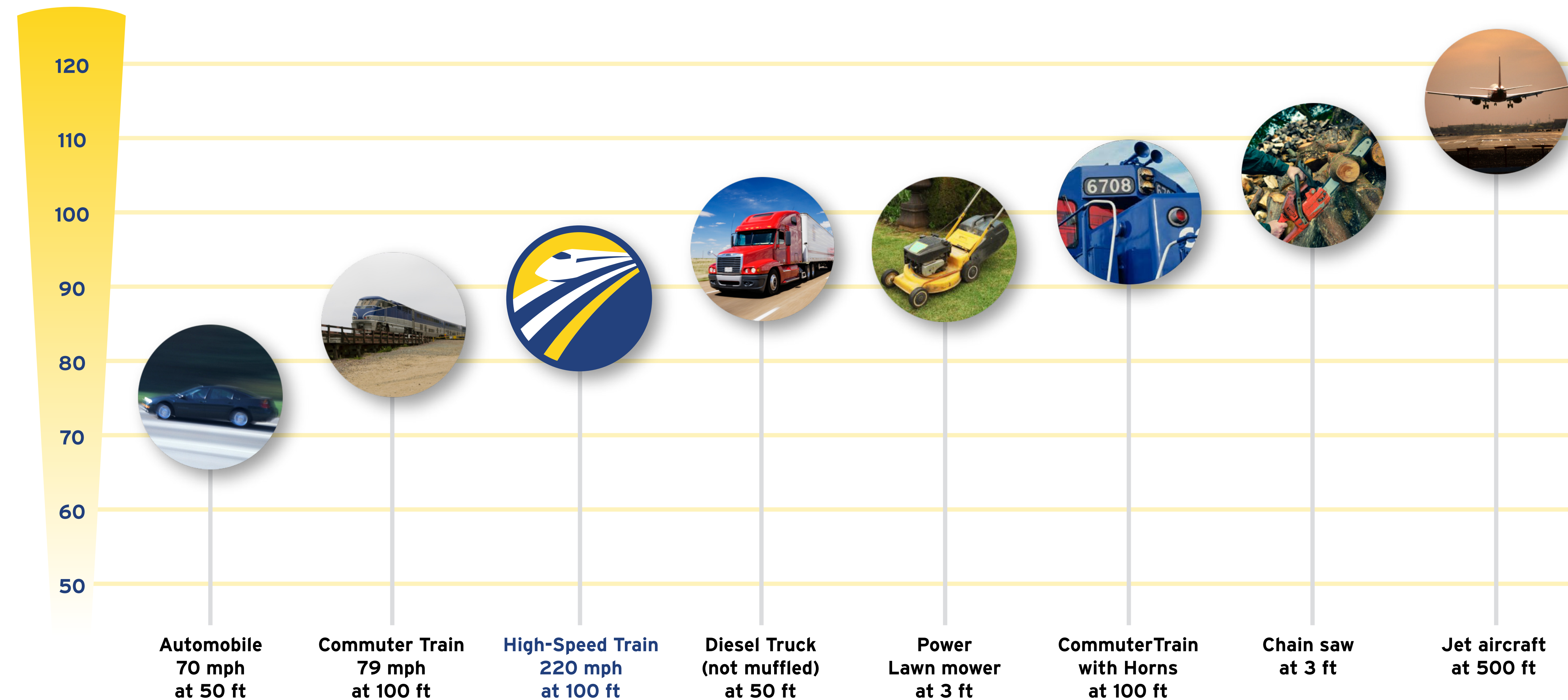
Day-Night Sound Level looks at sound fluctuations over a full 24 hours, taking into account the heightened sensitivity in residential areas to sounds made late at night.

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SOUND

How does high-speed rail compare to other everyday noises?

Maximum level
in decibels
(single event)



A train moving at 220 mph – the top speed of California's high-speed trains – will be heard for about four seconds

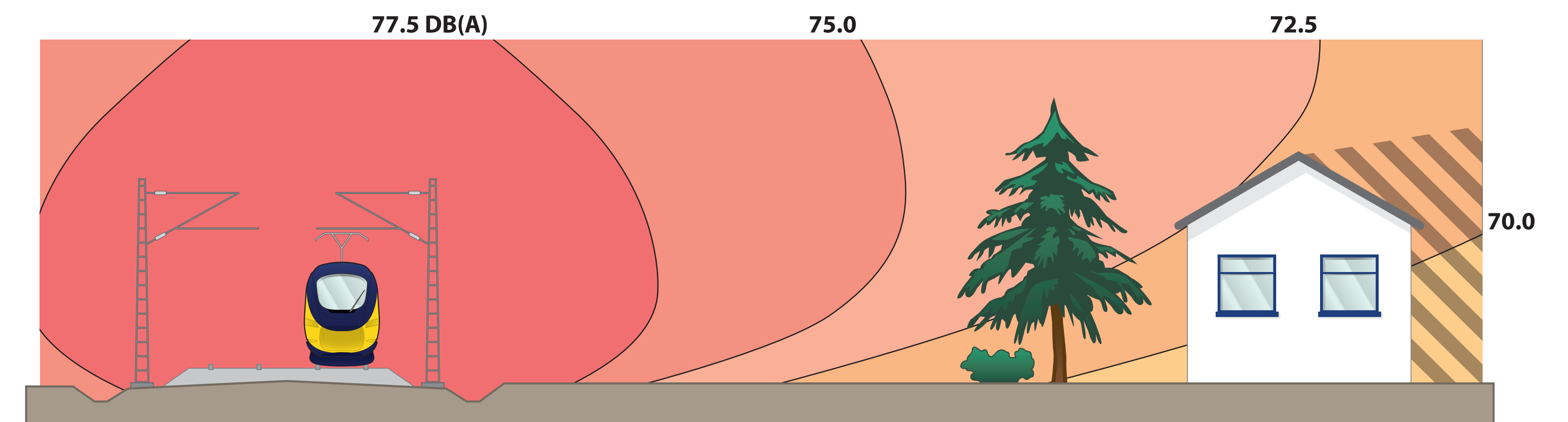
**By comparison. . .
A 50-car freight train traveling at 30 mph can be heard for one minute**

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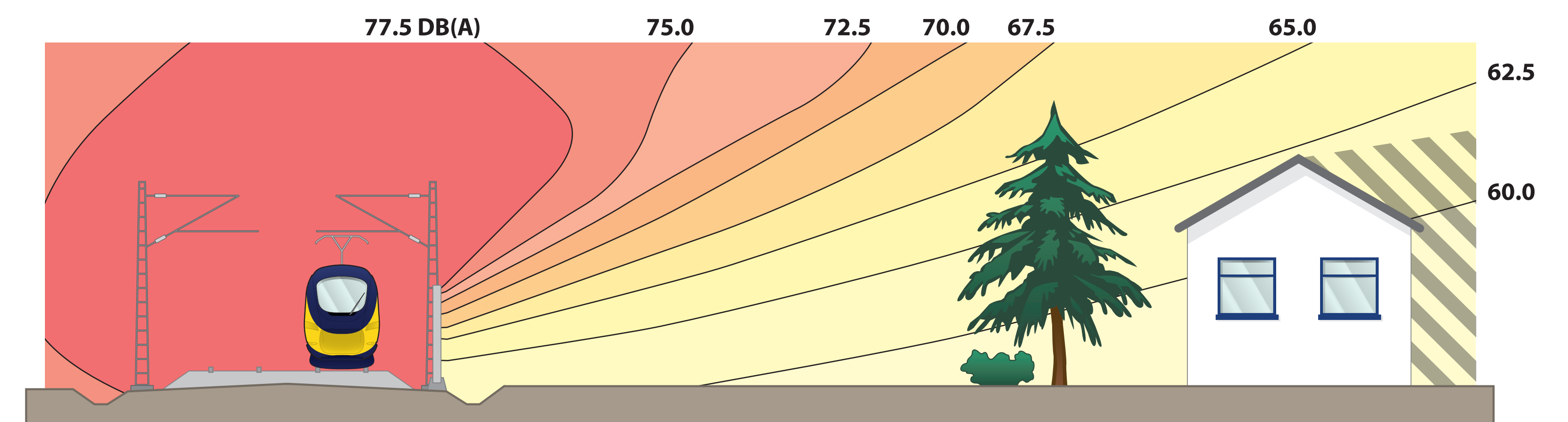
COMMITMENT TO SOUND MITIGATION

Engineering and design will make a big difference

- Sound engineers and train builders have over 40 years experience – and good mitigation measures are working around the world.
- For a train traveling less than 160 mph, a six to 12-foot sound barrier will **reduce noise by five to nine decibels** (the human ear perceives a 10-decibel reduction as cutting the sound in half).
- The sound from a high-speed train operating on an aerial structure could be **one or two decibels higher** than at ground level.
- The sound from a high-speed train operating in an open trench could be **five to seven decibels lower** than at ground level



Noise levels without sound barrier



Noise levels with sound barrier

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HOW TO PARTICIPATE

- **Talk to high-speed train staff**
- **Fill in and drop off comment cards**
- **Add your e-mail to our mailing list**

For more information after this meeting:

Call: (800) 881-5799

Visit: www.cahighspeedrail.ca.gov

E-mail: san.jose_merced@hsr.ca.gov

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